

Gaming machine illuminating arrangement

Field of the Invention

This invention relates to a gaming machine. More particularly, the invention relates to a gaming machine illuminating arrangement and to a gaming machine
5 including an illuminating arrangement.

Background to the Invention

At present, gaming machine artwork, whether in a top box or in a belly of the gaming machine, is illuminated by means of one or more fluorescent lamps arranged
10 behind a panel carrying the artwork.

Generally, the intensity of these lamps cannot be adjusted. Also, the fluorescent lamps have a life of about one year which is much shorter than the average life of a gaming machine.

Additionally, the fluorescent lamps emit only white light requiring any
15 colouration of the artwork to be effected by means of the artwork. This can result in complex screen-printing requirements with the resultant additional costs.

Summary of the Invention

According to a first aspect of the invention, there is provided a gaming machine
20 illuminating arrangement, the illuminating arrangement including:

a carrier; and

a plurality of semiconductor illuminating elements arranged in a predetermined array on the carrier.

The carrier may be a strip of printed circuit board (PCB) carrying conductive
25 traces for connecting the illuminating elements to a control means for supplying electrical power to the PCB. The control means may be part of a controller of the gaming machine.

The semiconductor illuminating elements may be in the form of light emitting diodes (LED's). The LED's may be arranged in a sequence of repeating groups on the
30 strip. Each group may comprise a predetermined number of differently coloured LED's. Preferably, each group of LED's comprises LED's corresponding to the three primary colours. In other words, each group may comprise a red LED, a green LED and a blue LED so that, by appropriate energising of the LED's, any colour in the visible spectrum can be achieved. In the case where colour control is not required,

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either all the LED's may be illuminated or, instead, white LED's may be used for illumination purposes.

According to a second aspect of the invention, there is provided a gaming machine which includes:

- 5 a chamber-defining portion that defines a chamber;
- a panel carrying gaming machine artwork arranged on one side of the chamber;
- a light diffusing element arranged on an opposed side of the chamber in spaced relationship relative to the panel; and
- a gaming machine illuminating arrangement, as described above, arranged in the
- 10 chamber between the panel and the light diffusing element.

The light diffusing element may be in the form of a diffuser plate.

The gaming machine may include a control means for controlling operation of the illuminating arrangement. The control means may form part of a controller of the gaming machine.

- 15 When the gaming machine is in an idle mode, the controller may cause the gaming machine illuminating arrangement to operate in an attract mode to attract players to the gaming machine.

- The chamber defining means may be arranged in a top box of the gaming machine. Instead or, in addition, the chamber defining means may be arranged in a
- 20 belly of the gaming machine.

- When the top box is to be used in an "attract" mode, artwork on the panel of the top box may be of an appropriate format to impart an attractive appearance to the gaming machine and to encourage people to play the gaming machine. Paytables, rules of the game played on the gaming machine etc, may be carried on artwork arranged in
- 25 the belly of the gaming machine.

Brief Description of the Drawings

The invention is now described by way of example with reference to the accompanying diagrammatic drawings in which:

- 30 Figure 1 shows a perspective view of a gaming machine, in accordance with an embodiment of an aspect of the invention;

Figure 2 shows a block diagram of a control circuit of the gaming machine; and

- Figure 3 shows a perspective view of the gaming machine with a top box in an open configuration showing an illuminating arrangement in accordance with an
- 35 embodiment of another aspect of the invention.

Detailed Description of the Drawings

In Figure 1, reference numeral 10 generally designates a gaming machine, in accordance with an embodiment of an aspect of the invention. The machine 10 includes a console 12 having a video display unit 14 on which a game 16 is played, in use. The game 16 is, normally, a spinning reel game which simulates the rotation of a number of spinning reels 18. However, the game 16 could be a card game or a ball-type game such as bingo, keno, or the like. A midtrim 20 of the machine 10 houses a keypad 22 of buttons for enabling a player to play the game 16. The midtrim 20 also houses a credit input mechanism 24 including a coin input chute 24.1 and a bill collector 24.2.

The machine 10 includes a top box 26 on which artwork 28 is carried. The artwork 28 of the top box 26 includes details of the game 16, such as a name of the game and related thematic material, of the relevant gaming machine 10. Supplementary artwork 29 is carried on a panel received in a frame of a belly door 31 of the gaming machine 10. The supplementary artwork 29 includes paytables, details of bonus awards, etc.

A coin tray 30 is mounted beneath the console 12 for cash payouts from the machine 10.

Referring now to Figure 2 of the drawings, a control means or control circuit 32 is illustrated. A program which implements the game and user interface is run on a processor 34 of the control circuit 32. The processor 34 forms part of a controller 36 that drives the screen of the video display unit 14 and that receives input signals from sensors 38. The sensors 38 include sensors associated with the keypad 22 and touch sensors mounted in the screen of the video display unit 14. The controller 36 also receives input pulses from the mechanism 24 to determine whether or not a player has provided sufficient credit to commence playing. The mechanism 24 may, instead of the coin input chute 24.1 or the bill collector 24.2, or in addition thereto, be a magnetic stripe card reader (not shown) or any other type of validation device.

Finally, the controller 36 drives a payout mechanism 40 which, for example, may be a coin hopper for feeding coins to the coin tray 30 to make a pay out to a player when the player wishes to redeem his or her credit.

Referring to Figure 3 of the drawings, the gaming machine 10 includes an illuminating arrangement 50. The illuminating arrangement 50 is shown in the top box 26 of the gaming machine 10. A similar illuminating arrangement (not shown) is, additionally, or optionally, provided in the belly door 31 of the gaming machine 10 behind the artwork 29.

The illuminating arrangement 50 comprises a sequence of semiconductor illuminating elements in the form of light emitting diodes (LED's) 52. The LED's 52 are arranged in groups 54. Each group 54 comprises a red LED 52.1, a green LED 52.2 and a blue LED 52.3. It will be appreciated that the LED's 52.1, 52.2 and 52.3
 5 constitute the primary colours of the visible light spectrum and, by appropriate energising of the LED's 52 in each group 54, all colours of light can be emitted. For example, to obtain yellow light, both the red LED 52.1 and the green LED 52.2 of each group 54 are energised.

The top.box 26 has a door 56 containing a panel 58 carrying the artwork 28. A
 10 light diffusing element in the form of a light diffuser 60 is arranged inwardly of the door 56 so that a chamber 62 is defined between the diffuser 60 and the panel 58 in the door 56 of the top.box 26. The illuminating arrangement 50 is arranged in the chamber 62 intermediate the diffuser 60 and the panel 58 when the door 56 is in its closed condition.

15 As indicated above, the panel 58 carries artwork 28 showing the name of the game 16 played on the gaming machine 10 and related thematic material. When the gaming machine 10 is in an idle mode, ie. is not being played, the illuminating arrangement 50 is energised to cause the gaming machine 10 to go into an "attract" mode where various LED's 52 in the groups 54 are energised sequentially and
 20 cyclically to cause the artwork 28 of the panel 58 effectively to change colour. For example, the LED's could cycle from red to green to blue or, as indicated above, by energising more than one LED in each group at a time different colours can also be achieved. It will be appreciated that by energising all the LED's 52 in each group 54 white light is emitted by the illuminating arrangement 50. Further, for example, in the
 25 case of the belly panel where colour control may not be required, white LED's could be used.

The LED's 50 are arranged on a strip 64 of printed circuit board (PCB). The PCB 64 carries conductive traces (not shown) for electrically connecting the LED's 52 to the controller 36 of the gaming machine 10. The controller 36 controls energising of
 30 the LED's 52 to achieve the desired effect. The controller 36 can also vary the intensity of the light emitted by the LED's 52 to enhance the required or desired effect.

It will be appreciated that a similar effect can be achieved in respect of the artwork 29 in the belly door 31 of the gaming machine 10.

35 It is an advantage of the invention that an illuminating arrangement 50 is provided which, due to its semiconductor nature, has a longer life than fluorescent lamps or tubes which are currently used in gaming machines. The applicant believes

that the illuminating arrangement 50 should have a lifespan corresponding to that of the gaming machine 10 itself. In addition, the illuminating arrangement 50 provides a more versatile configuration as, by appropriate illumination of the LED's 52, various colours of illumination can be achieved. Also, by appropriate control of the LED's 52, 5 varying intensity of illumination of the LED's can be effected. In so doing, an effective "attract" mode of operation of the gaming machine 10 can be achieved.

It will be appreciated by persons skilled in the art that numerous variations and/or modifications may be made to the invention as shown in the specific embodiments without departing from the spirit or scope of the invention as broadly 10 described. The present embodiments are, therefore, to be considered in all respects as illustrative and not restrictive.